
Roller for the Thermomechanical Treatment of a Web-shaped Medium

WHAT IS CLAIMED IS:

1. A roller for the thermomechanical treatment of a web-shaped medium, said roller including:
 - a) a roller body;
 - b) axial bores for a thermal treatment fluid which are incorporated in said roller body near to an outer surface of the roller body and into which said thermal treatment fluid flows on an inflow side;
 - c) inflow zones, formed on said inflow side in the upstream ends of said bores or in feed channels through which the thermal treatment fluid flows into the bores;
 - d) and directing or guiding means provided in said inflow zones, which transfer a rotational movement of said roller onto the thermal treatment fluid,
wherein
 - e) said directing means at least substantially completely transfer said rotational movement onto the thermal treatment fluid and in this way suppress a relative channel swirl between the bores and the thermal treatment fluid, while still in the inflow zones.
2. The roller as set forth in claim 1, wherein directing or guiding elements which protrude into the flowing thermal treatment fluid in the inflow zones form or form a part of the directing means.
3. The roller as set forth in the preceding claim, wherein said directing elements are arranged in the bores.

4. The roller as set forth in claim 2, wherein the directing elements are inserted into the bores or in the feed channels leading to the thermal treatment channels and are attached, secured against rotating and shifting.
5. The roller as set forth in claim 2, wherein the directing elements extend in the translational direction of the flowing thermal treatment fluid and obliquely to the rotational direction of the roller.
6. The roller as set forth in claim 2, wherein the directing elements form peens which in the bores or in the feed channels leading to the bores reach as far as the walls of the bores or feed channels.
7. The roller as set forth in claim 2, wherein the directing elements in the inflow zones subdivide the bores or the feed channels leading to the bores into sectors or/and segments.
8. The roller as set forth in claim 1, wherein a feed channel feeds into one of the bores on the inflow side, such that a flow of fluid with an eccentricity enters the bore through the feed channel, in order to form the directing means.
9. The roller as set forth in claim 1, wherein a feed channel feeds into one of the bores on the inflow side, such that a flow of fluid entering the bore through the feed channel exhibits an inclination with respect to a plane through which the rotational axis of the roller and a central longitudinal axis of the bore extend, in order to form the directing means.